S/M No. : TSP110AEF0

Service Manual

Model : DSP-4210GM

CHASSIS : SP-110

DAEWOO ELECTRONICS CO., LTD

http : //svc.dwe.co.kr May.2001

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1. SAFETY & PRECAUTIONS

SAFETY CHECK AFTER SERVING

Examine the area surrounding the repaired location for damage or deterioration. Observe that screw, parts and wires have been returned to original positions. Afterwards, perform the following tests and conform the specified values in order to verify compliance with safety standards.

1-1. Insulation resistance test

Confirm the specified insulation resistance between power cord plug prong and externally exposed parts of the set (video and audio input terminals, speaker out terminals etc) is greater than values given in table 1 below.

1-2. Dielectric strengthen test

Confirm specified dielectric strengthen between power cord plug prongs and exposed accessible parts of the set (video and audio input terminals, speaker out, etc) is greater than values given table 1 below.

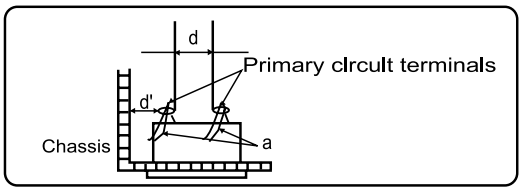


Fig.1

1-3. Clearance distance

When replacing primary circuit component, confirm specified clearance distance (d), (d') between soldered terminals (see Fig1), and between terminals and surrounding metallic parts. See table 1 below.

Rating for selected areas (table 1)

AC Line Voltage	Region	Insulation Resistance	Dielectric Strength	Clearance Distance(d),(d')
100V	Japan	≧1MΩ / 500V DC	1kV AC 1min.	≧ 3
110 to 130V	USA &Canada	-	900V AC 1min	≧ 3.2
110 to 130V 200 to 240V	Europe Australia Latin America	≧10MΩ / 500V DC	4kV AC 1min.	≧ 6(d) ≧ 8(d) (a : Power cord)

∗ Class model only

NOTE

This table is unofficial and for reference only. Be sure to confirm the precise values for your particular.

1-4. Leakage current test

Confirm specified or lower leakage current between B(earth ground, power cord plug prongs) and externally exposed accessible parts (video and audio input terminals, speaker out, etc.)

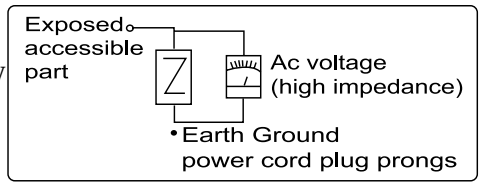


Fig.2

Measuring method:(Power ON) lnsert load Z between B(earth ground, power cord plug prongs) and exposed accessible parts. Use AC voltmeter to measure AC voltage across both terminals of load Z. See Fig.2 and following table.

Leakage current ratings for selected are as

Ac Line Voltage	Region	Load Z	Leakage Current(*i*)	Clearance Distance(d),(d')
100V	Japan	1 kΩ	*i* ≦1mArms.	Exposed accessible parts
110 to 130V	USA & Canada	1 kΩ 15μF	*i* ≦0.5mArms.	Exposed accessible parts
110 to 130V 200 to 240V	Europe Australia	2 kΩ	*i* ≦ 0.7mA peak *i* ≦2mAdc	Antenna earth terminals
		50kΩ	*i* ≦ 0.7mA peak *i* ≦ 1mAdc	Other terminals

NOTE

This table is unofficial and for reference only. Be sure to confirm the precise values for your particular country and locality.

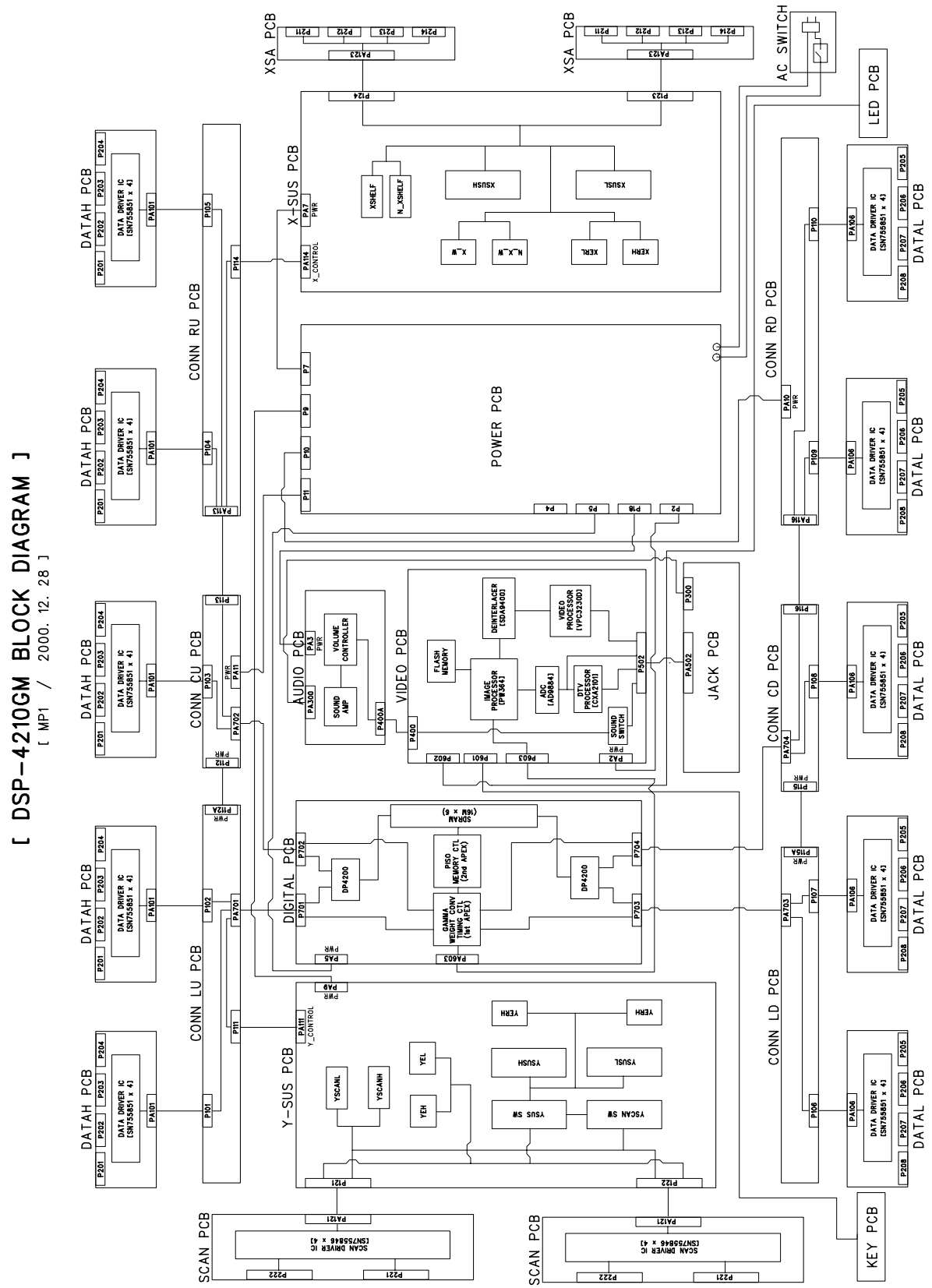
2. PRODUCT SPECIFICATION

[DSP-4210GM]

ITEM	SPECIFICATION	REMARK
1. GENERAL		
1-1. MODEL NO	DSP-4210GM	
1-2. CHASSIS NO	SP-110	
1-3. SCREEN SIZE	42” (16:9)	
1-4. COUNTRY	WORLD WIDE	
1-5. RESOLUTION	853(W) X 480(H)	
1-6. REMOCON TRANSMITTER TYPE	R-V2A(ENGLISH), R-V2AK(KOREAN)	
1-7. SAFETY STANDARD	UL, CSA, CE, KE	
2. MECHANICAL		
2-1. DIMENSION		
1) WITHOUT STAND	W X H X D = 1055 X 652 X 85	
2) WITH STAND	W X H X D = 1055 X 730 X 85	
3) BOX	W X H X D = 1190 X 870 X 480	
2-2. WEIGHT		
1) WITHOUT STAND	33kg	
2) WITH STAND	39kg	
3. ELECTRICAL & OPTICAL		
3-1. COMPOSITE VIDEO INPUT SIGNAL	NTSC,PAL,SECAM,PAL-M/N,NTSC4.43 1 INPUT (75Ω , 1Vp-p)	
3-2. Y/C INPUT SIGNAL	50/60Hz, Super Jack 1 Input(75Ω ,1Vp-p)	
3-3. DTV/DVD INPUT SIGNAL	Y,Pb/Cb,Pr/Cr 1 Input (75Ω ,1Vp-p) ∗ DTV Resolution Mode (Y, Pb, Pr) : 1920X1080i, 1280X720p, 640X480p ∗ DVD (Y,Cb,Cr) : 50/60Hz	
3-4. PC SIGNAL	R,G,B,H,V 15Pin D-sub jack 1 Input (75Ω ,1Vp-p) * Resolution Mode : VGA - UXGA	
3-5. SOUND INPUT SINAL	Composite, Y/C : L/R Phone Jack 1Pair DTV/DVD : L/R Phone Jack 1Pair PC : L/R Phone Jack 1Pair ∗ Input Impedance 47 kΩ↑	

ITEM	SPECIFICATION	REMARK
3-6. Optical Chracteristics		
1) Display Resolution	16:9 Wide 853 X 480	
2) Peak Luminance	160cd/ m^2	
3) Contrast Ratio	500:1	
4) Color Temperature	8000^{o} K	
3-7. Scaling	<Scaling Mode> PC, DTV : Fill to Aspect Ratio, Fill to Screen DVD, VIDEO : Normal, Wide, Panaroma, Letter Box, Letter Box with Sub Title <Scaling Adjust> PC,DTV (User Control) : H-Size, V-Size H-Position, V-Position	
3-8. Zoom	$Zoom^{+}$, 4Direction Paning Avaiable	
3-9. PIP	Video Window in DTV/PC Picture PIP Size, Position Changeable	
3-10.OSD	8Language KOREAN,ENGLISH,NETHERLAND, FRENCH,SPANISH,GERMAN, PORTUGUESE,ITALIAN	
3-11. AC Power	AC 90V-264V, 50/60Hz	
3-12. Power Consumption	350 WATTS	
3-13. Sound Output	L : 8Watts, R : 8Watts	
3-14. LAN Interface	Option	
3-15. Settop Box Interface	Option	
3-16. Others	Freeze Picture, Video Rotation	
4. USER CONTROL & ACCESSORIES		
4-1.CONTROL		
1) SET	AC POWER, MENU, INPUT SELECT, UP, DOWN, LEFT, RIGHT	
2) REMOCON TRANSMITTER	INPUT SELECT,POWER,RECALL, ZOOM-, ZOOM+,MENU,UP,DOWN,LEFT,RIGHT, PICTURE MODE,FREEZE,SCREEN MODE, MUTE	
4-2. ACCESSORIES	1) REMOCON : R-V2A, R-V2AK 2) BATTERY : “AAA” 2EA 3) INSTRUCTION MANUAL 4) STAND (OPTION) 5) WALL HANGER (OPTION) 6) SPEAKER UNIT 2ASS’Y (OPTION)	

3. BLOCK DIAGRAM



4. Adjustment

4-1. How to confirm the origianl data of VIDEO PCB

(1) Input selection : You select video mode
(2) You confirm the original data of user control
- Brightness : 36 (:20 in case of DTV/PC input mode)
- Contrast : 60
- Sharpness : 2
- Colour : 32
- Tint : 0 (Center)

(3) You confirm the original data of SERVICE MODE (PW364)
(See 4-4)
- Sub-Brightness : 60
- Sub-Contrast : 70
- R-Bias : 63
- G-Bias : 63
- B-Bias : 68
- R-Gain : 53
- G-Gain : 57
- B-Gain : 76

4-2. How to adjust POWER PCB

(1) Devices for measurement : Digital volt meter, Pattern generator
(2) Conditions : You adjust as follows after assembling set and inputting WHITE PATTERN.
1) V_{SUS}(Sustain voltage) : Voltage sustaining electronic discharge
TP : P12
Adjustment control : RV600
Standard voltage : 166V
2) V_{SCAN}(Scan voltage) : Scan voltage when recording DATA
TP : PA9 #6 PIN of Y PCB
Adjustment control : RV14
Standard voltage : -160V
3) V_{ADD}(ADDRESS voltage) : Voltage recording DATA
TP : P14
Adjustment control : VRS1
Standard voltage : 80V

4-3. X/Y PCB adjustment

(1) Devices for measurement : Digital volt meter, Pattern generator
(2) Previous adjustment voltage : You adjust as follows after assembling set and inputting BLUE PATTERN.

1) V_{SHELF}(SHELF voltage) : X-electrode sustain voltage when recording DATA
   TP : RCU25
   Adjustment control : RU5
   Standard voltage : +60V
2) V_{VH}(SCAN VH voltage) : VH voltage of SCAN IC when scanning
   TP : RY7 voltage each side
   Adjustment control : RY6
   Standard voltage : -70V

(3) The final operation adjustment

1) Input a monochrome pattern of R,G,B. And then you check if there are abnormal OFF-state pixels (which must be in ON-state but are in OFF-state).
   If any, increase V_{SUS} voltage slowly from 166V to remove abnormal OFF state pixels in that pattern.
2) If there is no abnormal OFF-state pixel in monochrome pattern of R,G,B, make sure if there is abnormal OFF-state in Magenta, Cyan, Yellow or not. If any, increase V_{SUS} slowly in that pattern.
3) Increase V_{SUS}, which is set as above, by 1V.
4) Make sure if there are abnormal ON-state pixels(which must be on OFF-state but are in ON-state, for example, R or G) in Blue pattern after aging Blue pattern 5 minutes. If any, set V_{SCAN} slowly from - 160V to - 150V and decrease V_{SHELF} slowly to remove wrong electronic discharge.

4-4. White balance adjustment

(1) Feed grey scale signal to video input terminal.
(2) Confirm the original data of user control (See 4-1).
(3) Press Remote controller in order starting with UP => MUTE => RECALL => MUTE BUTTON to access Service adjustment mode and select PW364. And then confirm the original data of the Service mode PW364 register. (See 4-1).
(4) Make sure you can't recognize any grey scale errors in the form of colour tint in this darker bands.
(5) You attach the sensor of a White balance meter to the white part on the upper end of this grey scale pattern.
(6) Set White balance changing R,G,B-Gain.
   • You make sure that R,G,B-Gain must be set within the limit of 63±20. If it is over the limit, it is N.G.
   • How to adjust temperature of colour
     X = 0.290 ± 0.01, Y = 0.310± 0.01
     Temperature of colour : 8,300° K
(7) You can set Luminance level changing Sub-contrast.
   • If the set data of Sub-contrast is over the limit of 80, it is N.G.
(8) Press Menu button, to escape from Service mode.

5. When fitting a new board

5-1. Video

(1) Check the related adjustments are correctly set as per previous page.

5-2. X-Sustain

(1) Set the V_{SHELF} voltage according to the list of adjustments.
(2) The data of adjustment voltage is on the label, which is attached on the metal part under Y-Sustain board.

5-3. Y-Sustain

(1) Set the Vvh voltage according to the list of adjustments.
(2) The data of adjustment voltage is on label, which is attached on the metal part under Y-Sustain board.

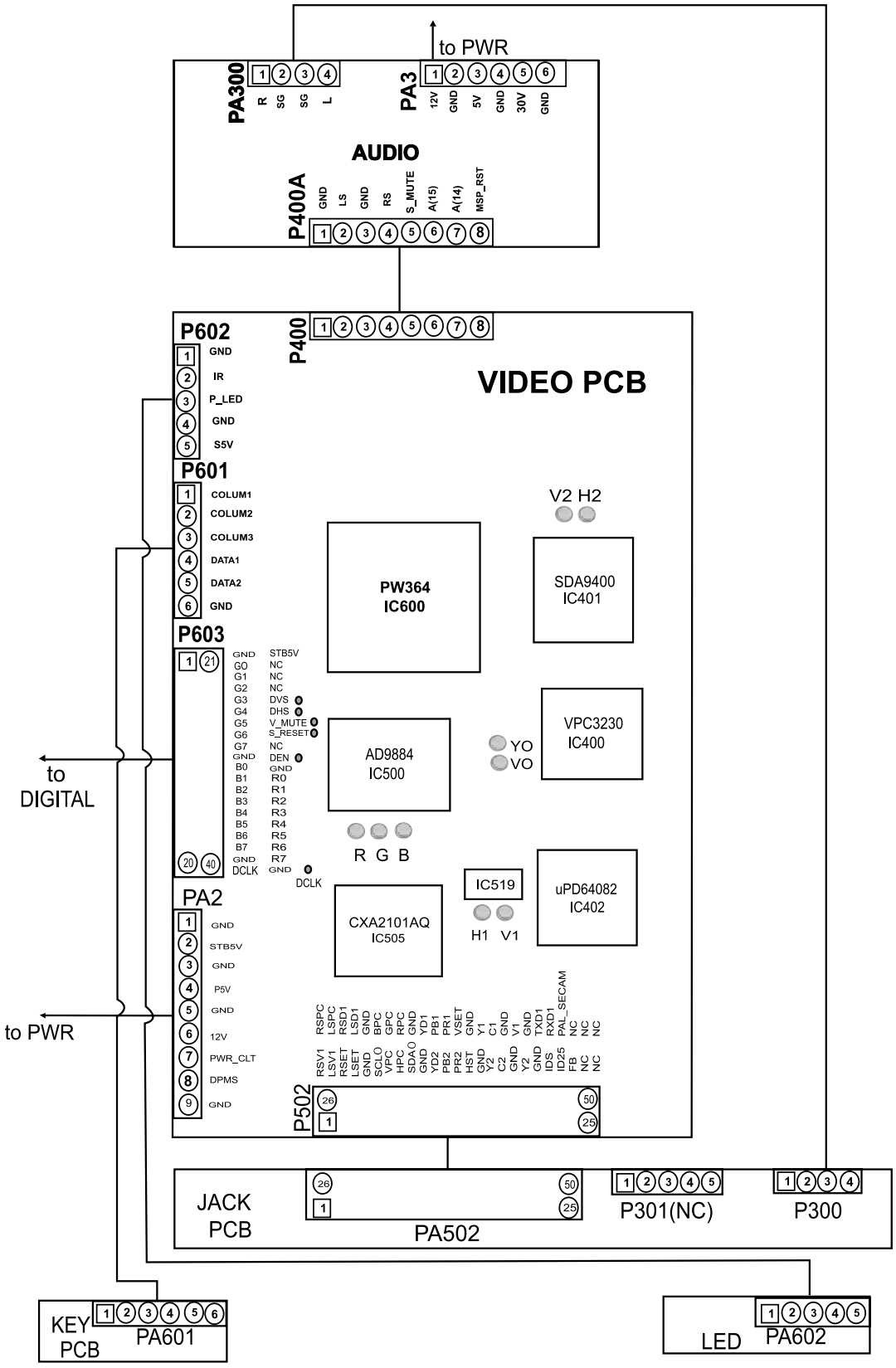
5-4. Power module

(1) You set each voltage according to the list of adjustments.
(2) The data of adjustment voltage is on the label, which is attached on the metal part under Y-Sustain board.

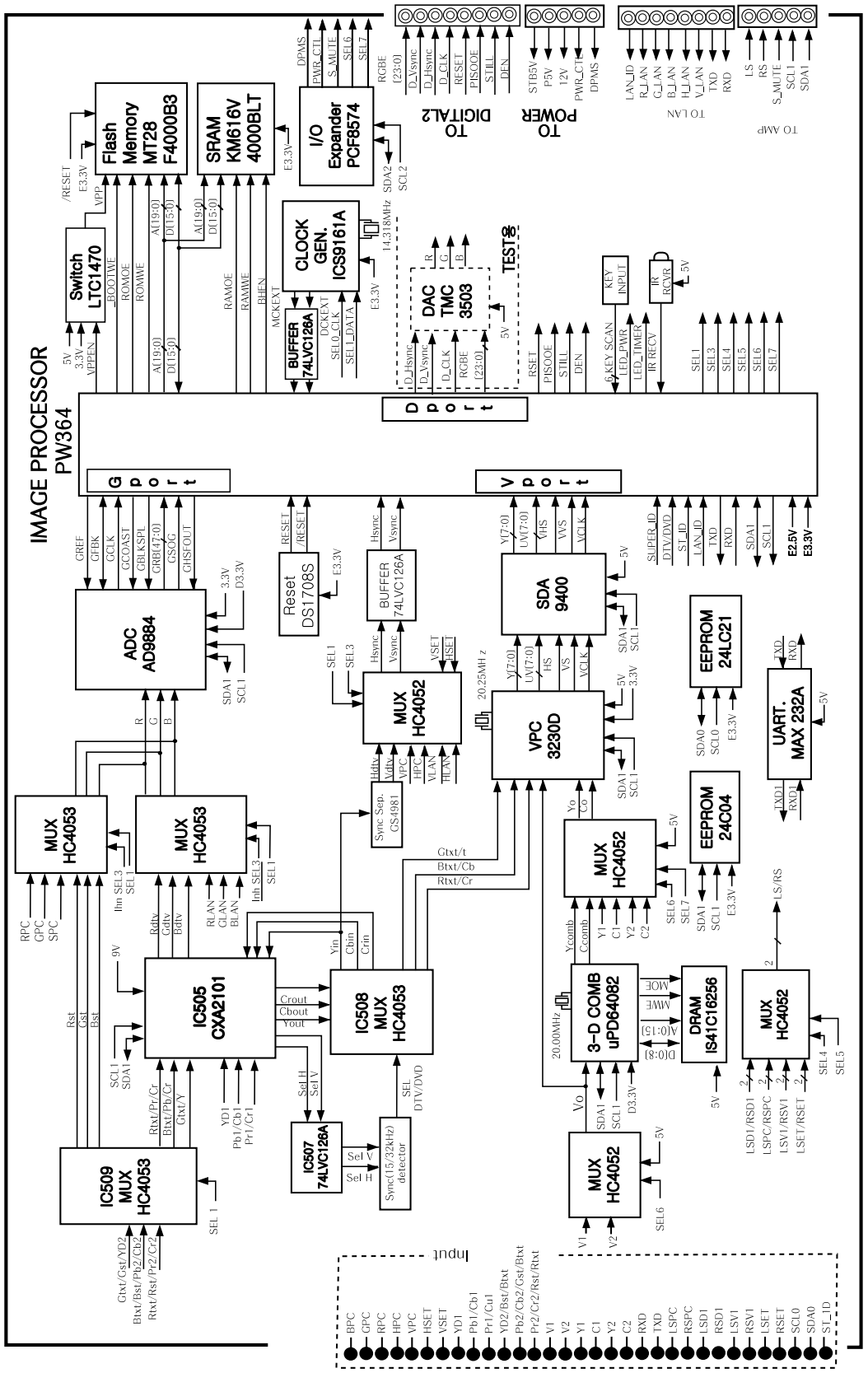
6. Trouble shooting

6-1. Audio/video
6-2. Digital
6-3. X-SUSTAIN
6-4. Y-SUSTAIN
6-5. SCAN Board
6-6. DATA H/L, Connection(LU,CU,RU,LD,CD,RD)
6-7. Power

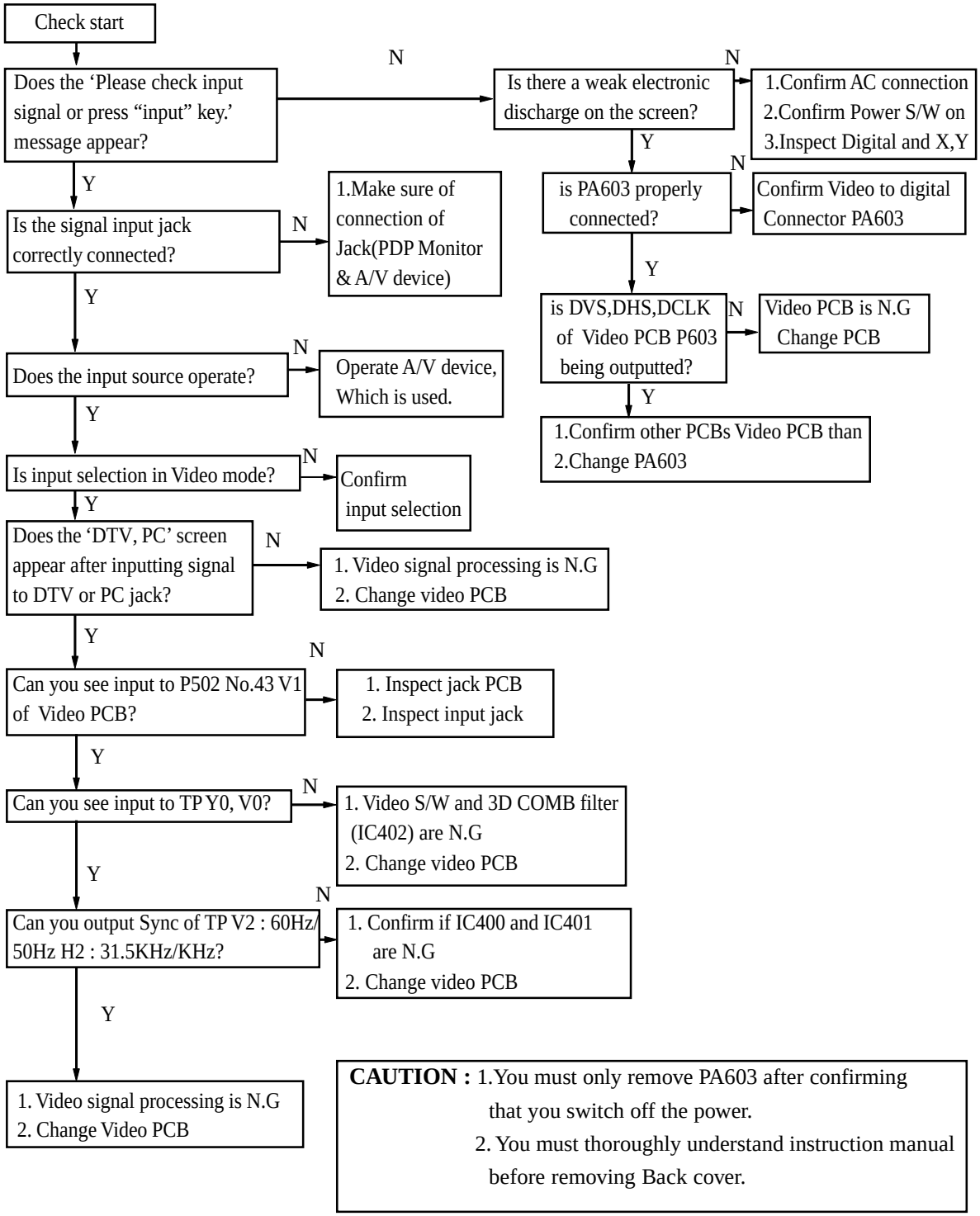
6-1. Audio/Video



* IMAGE PROCESSOR PART BLOCK DIAGRAM

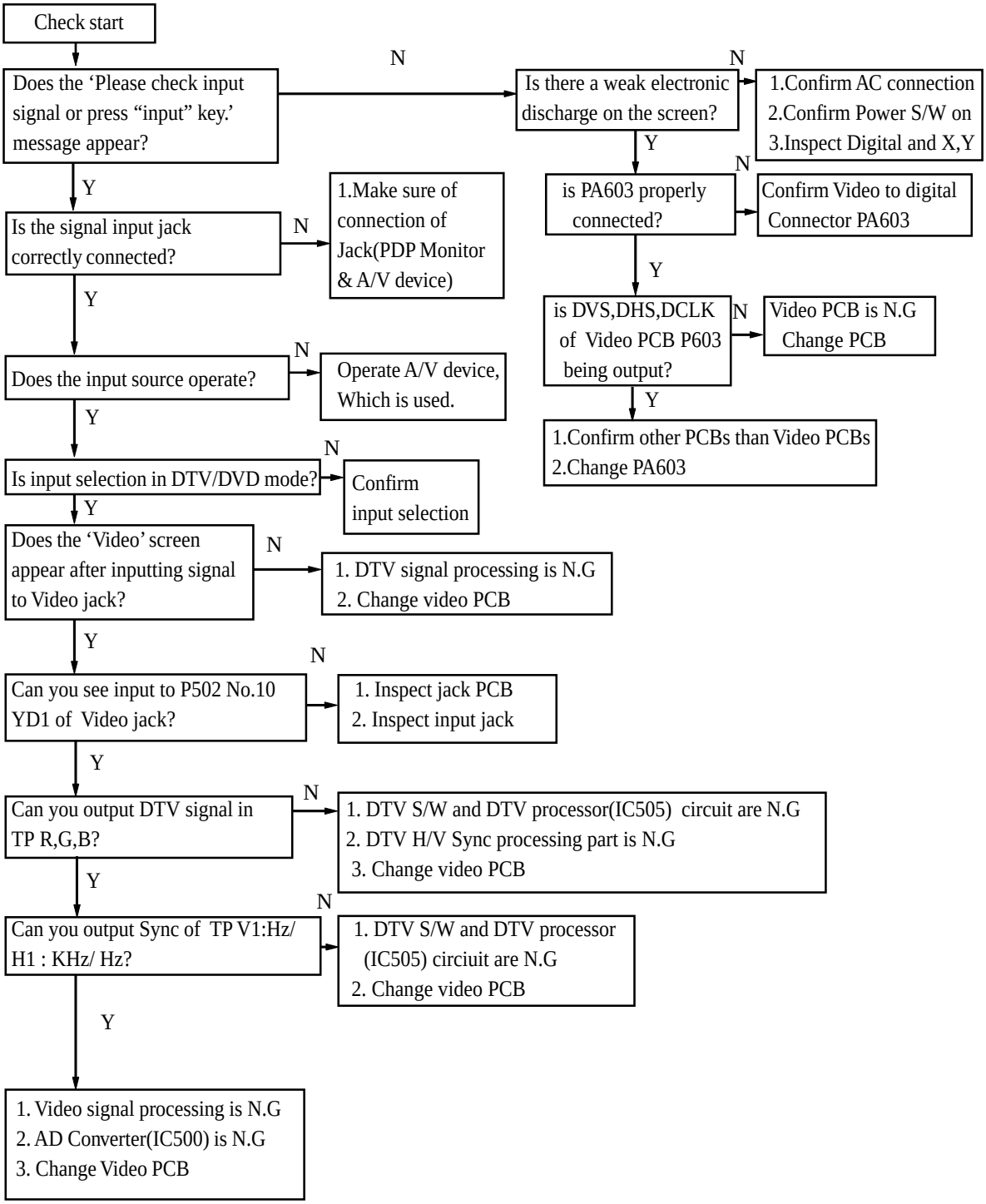


NO Video screen (Composite input)

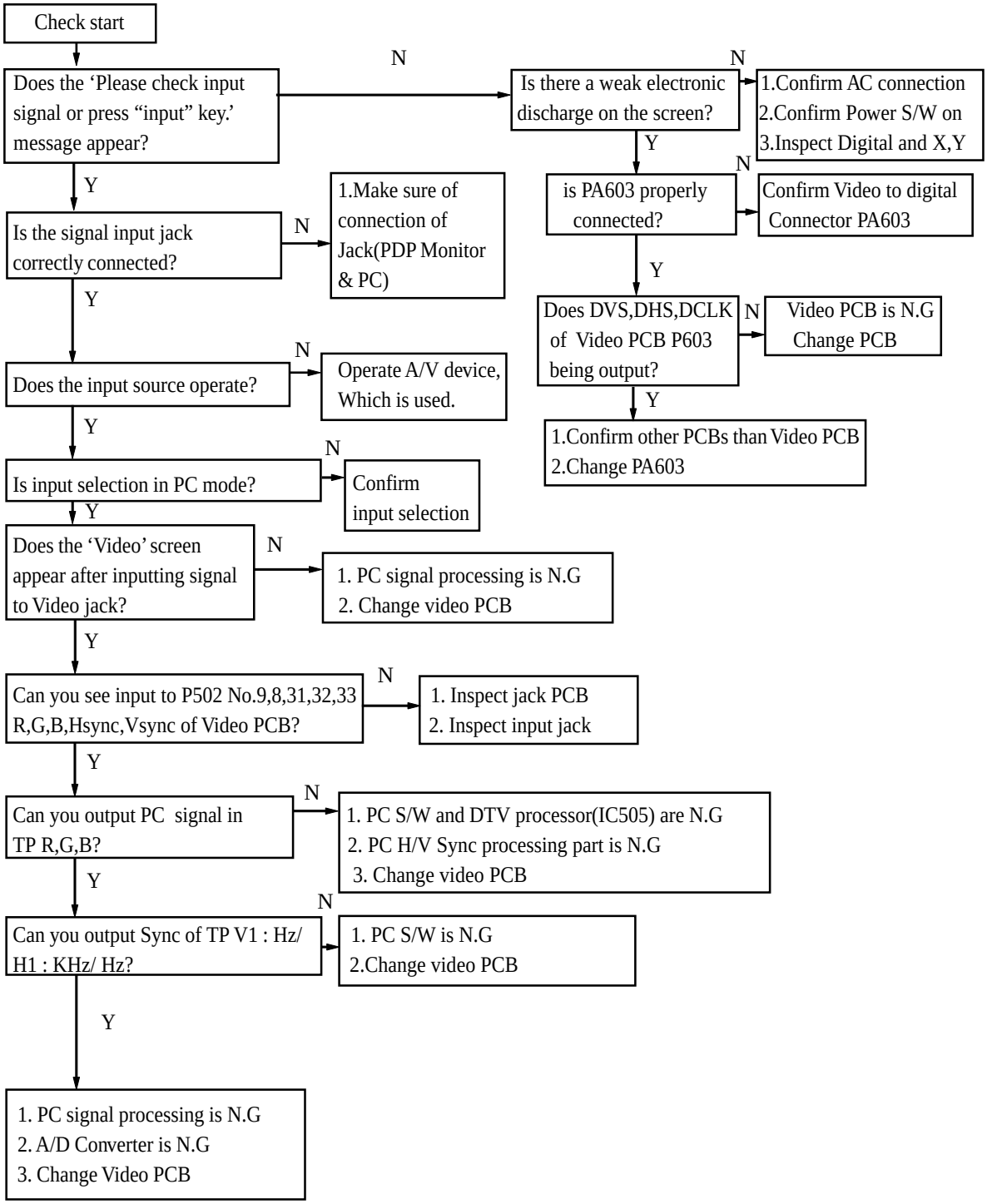


CAUTION : 1.You must only remove PA603 after confirming that you switch off the power.
2. You must thoroughly understand instruction manual before removing Back cover.

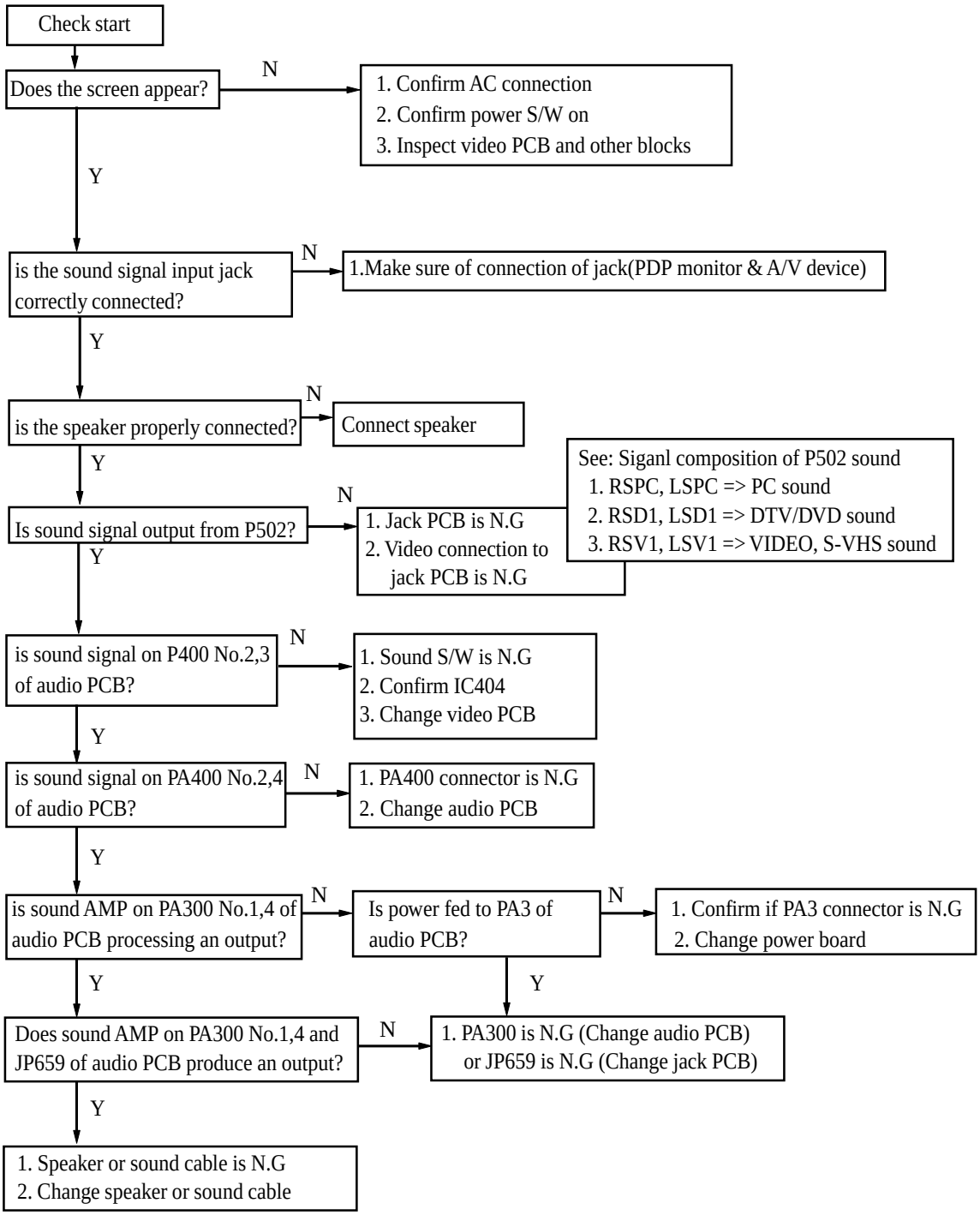
NO DTV screen (1080I, 720P, 480P)



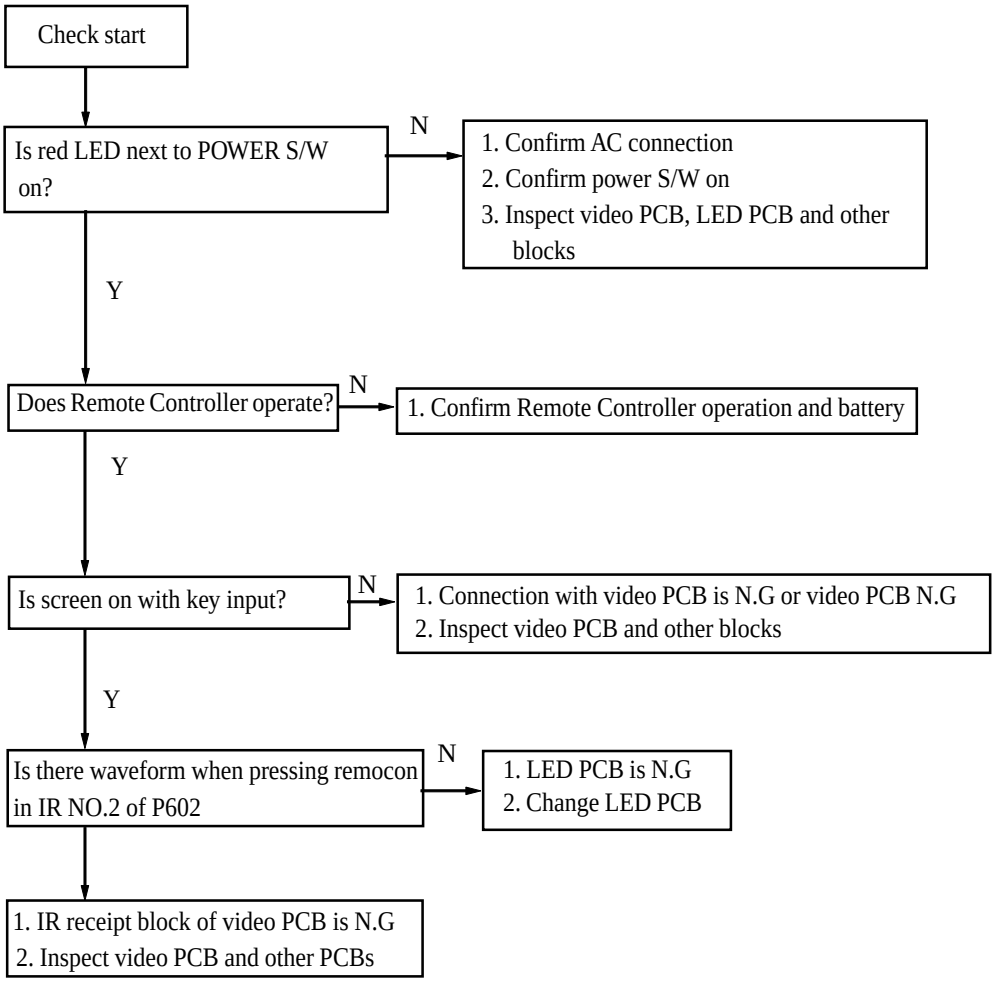
NO PC screen


Check start
Does the 'Please check input signal or press "input" key.' message appear?
N
Is there a weak electronic discharge on the screen?
N
1.Confirm AC connection
2.Confirm Power S/W on
3.Inspect Digital and X,Y
Y
Y
N
is PA603 properly connected?
N
Confirm Video to digital Connector PA603
Y
Is the signal input jack correctly connected?
N
1.Make sure of connection of Jack(PDP Monitor & PC)
Y
Does DVS,DHS,DCLK of Video PCB P603 being output?
N
Video PCB is N.G Change PCB
Y
1.Confirm other PCBs than Video PCB
2.Change PA603
N
Does the input source operate?
Operate A/V device, Which is used.
Y
N
Is input selection in PC mode?
Confirm input selection
Y
Does the 'Video' screen appear after inputting signal to Video jack?
N
1. PC signal processing is N.G
2. Change video PCB
Y
N
Can you see input to P502 No.9,8,31,32,33 R,G,B,Hsync,Vsync of Video PCB?
1. Inspect jack PCB
2. Inspect input jack
Y
N
Can you output PC signal in TP R,G,B?
1. PC S/W and DTV processor(IC505) are N.G
2. PC H/V Sync processing part is N.G
3. Change video PCB
Y
N
Can you output Sync of TP V1 : Hz/ H1 : KHz/ Hz?
1. PC S/W is N.G
2.Change video PCB
Y
1. PC signal processing is N.G
2. A/D Converter is N.G
3. Change Video PCB

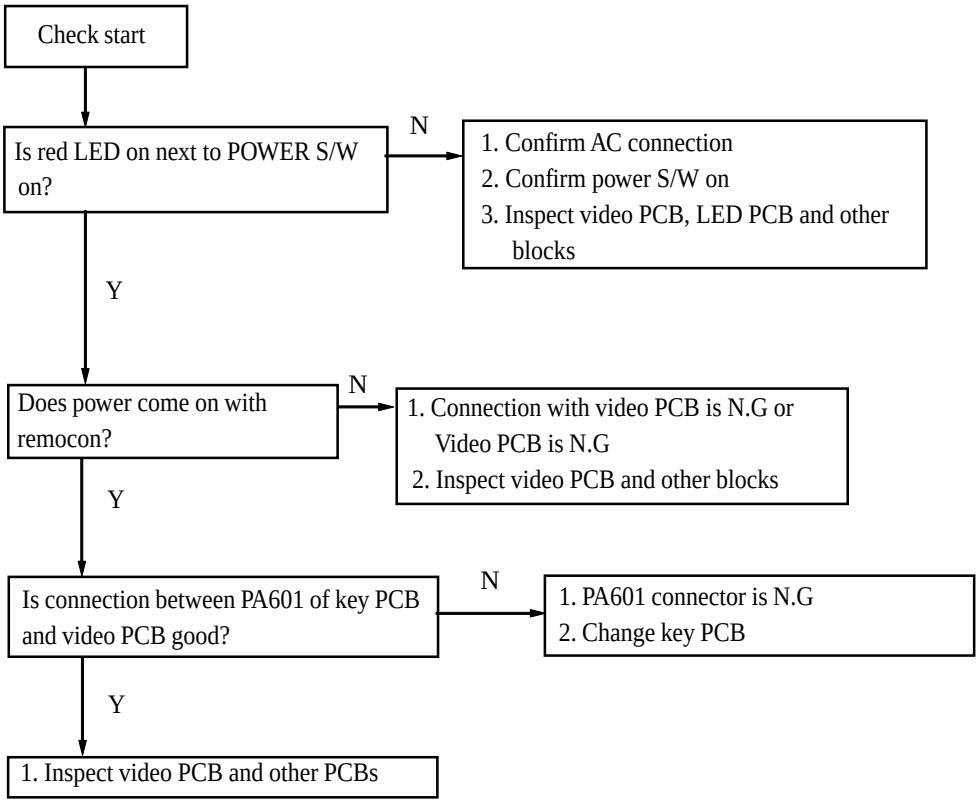
NO Sound


Check start
Does the screen appear?
N
1. Confirm AC connection
2. Confirm power S/W on
3. Inspect video PCB and other blocks
Y
is the sound signal input jack correctly connected?
N
1.Make sure of connection of jack(PDP monitor & A/V device)
Y
is the speaker properly connected?
N
Connect speaker
Y
Is sound signal output from P502?
N
1. Jack PCB is N.G
2. Video connection to jack PCB is N.G
See: Siganl composition of P502 sound
1. RSPC, LSPC => PC sound
2. RSD1, LSD1 => DTV/DVD sound
3. RSV1, LSV1 => VIDEO, S-VHS sound
Y
is sound signal on P400 No.2,3 of audio PCB?
N
1. Sound S/W is N.G
2. Confirm IC404
3. Change video PCB
Y
is sound signal on PA400 No.2,4 of audio PCB?
N
1. PA400 connector is N.G
2. Change audio PCB
Y
is sound AMP on PA300 No.1,4 of audio PCB processing an output?
N
Is power fed to PA3 of audio PCB?
N
1. Confirm if PA3 connector is N.G
2. Change power board
Y
Y
Does sound AMP on PA300 No.1,4 and JP659 of audio PCB produce an output?
N
1. PA300 is N.G (Change audio PCB) or JP659 is N.G (Change jack PCB)
Y
1. Speaker or sound cable is N.G
2. Change speaker or sound cable

NO Remote Controller operation



NO Key operation

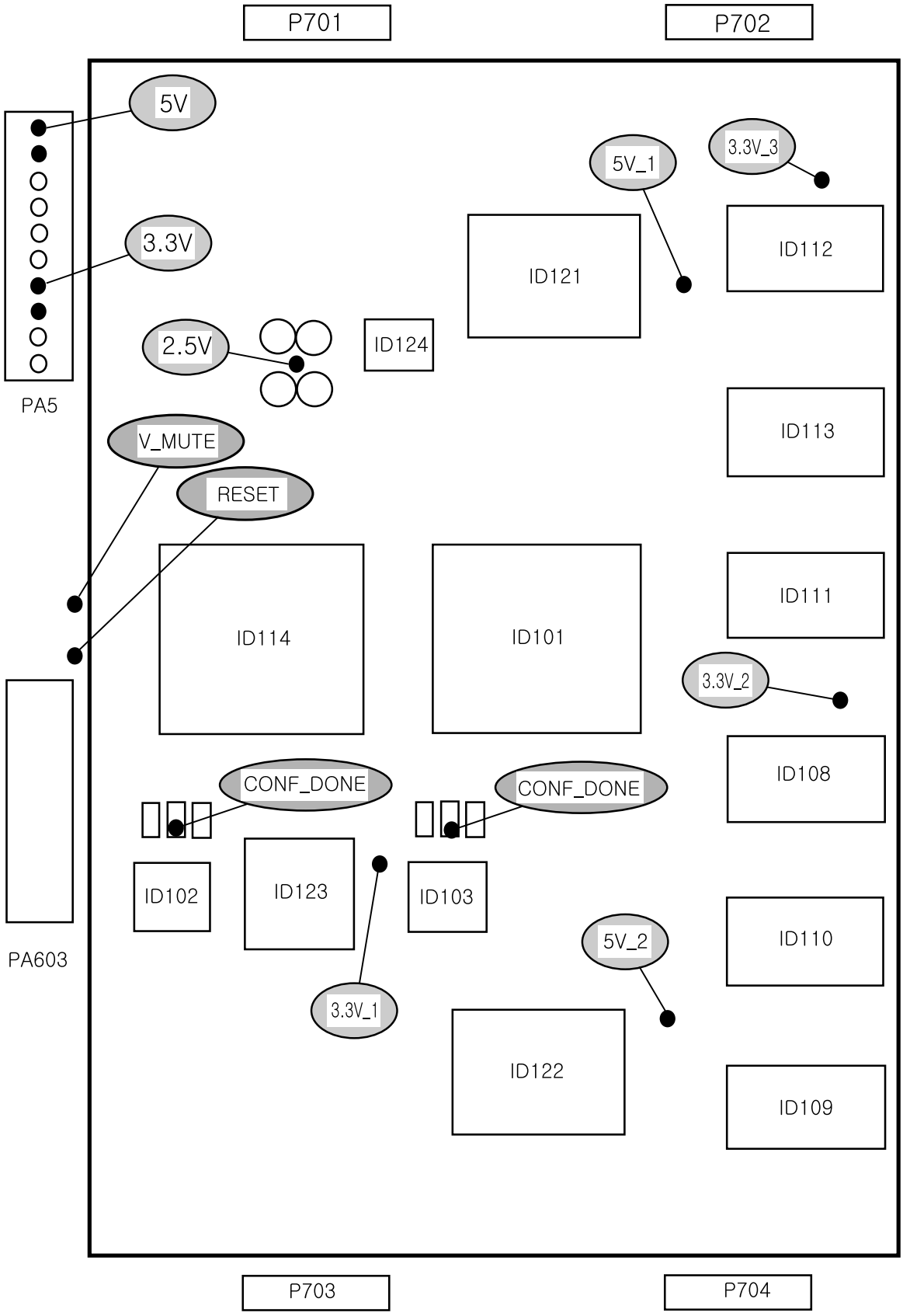


6-2. DIGITAL

Checking Order for normal operation of Digital Board and Check Points

(∗ Measure RMS voltage with a multi-meter, refer to the attached picture for position of check points)

1. After make sure that the set turns off, turn off the High Voltage ON/OFF Switch of the Power Board and then turn on the set
2. Confirm whether there is an input of 5V, 3.3V into Power Connector (PA5).
   - 5V input (pin No.1,2) : If 4.5V ~ 5.2V, O.K.
   - 3.3V input (pin No.7,8) : If 3.0V ~ 3.5V, O.K.
3. Confirm whether Power 2.5V, 3.3V_1, 3.3V_2, 3V_3, 5V_1, 5V_2
   - 2.5V : If 2.2V ~ 2.7V, O.K.
   - 3.3V : If 3.0V ~ 3.5V, O.K.
   - 5V : If 4.5V ~ 5.2V, O,K.
4. Confirm Reset and V_MUTE
   - Reset : If 3.0V ~ 3.5V, O.K.
   - V_MUTE :If 3.0V ~ 3.5V, O.K.
5. Confirm CONF_DONE (ID102, ID103)
   - CONF_DONE : If 3.0V ~ 3.5V, O.K.


P701
P702
5V
3.3V
PA5
2.5V
ID124
5V_1
3.3V_3
ID121
ID112
ID113
V_MUTE
RESET
ID114
ID101
ID111
3.3V_2
ID108
CONF_DONE
CONF_DONE
ID102
ID123
ID103
PA603
5V_2
ID110
3.3V_1
ID122
ID109
P703
P704

6-3. X-SUSTAIN BOARD

1. Separate PA7 and PA114 connector
2. Check the remaining electrical voltage of PA7
   (1) Check the Voltage of Terminal 170V : If maintained beyond 10 volt, discharge (below 5 volt) with resistance of beyond 1K ohm 5 Watt
3. Confirm the value of series and parallel resistance of RU10//RU13-RU11//RU14-RU12//RU15
   (1) Each value of resistance : 6.8 ohm 5 Watt
   (2) The total value of resistance : 10.2 +/- 0.5 ohm
   (3) In case of wrong value of resistance, replace (open) board and confirm each connector : the state of insertion (installation)
4. In case of normal value of resistance, measure the value as following table1.
   (1) Use a Diode Tester
   (2) If abnormal part is found, replace the board
   (3) In case of normal state, Inspect connectors and other boards

Table 1. PA7 The value of Diode Tester of each terminal

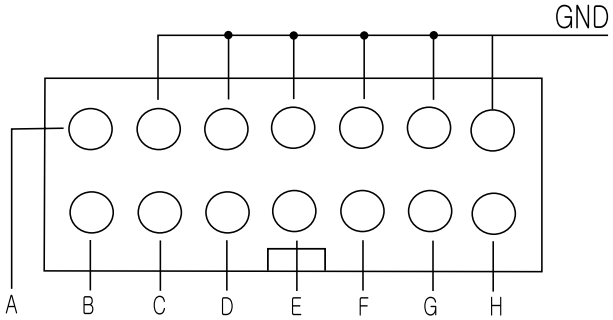
∗ + : red, - : black

	NAME	DIODE TESTER	MEASURE	DIODE TESTER	MEASURE
1	170V	+	About 5 sec.	-	0.49
	GND	-	Later, Open	+	
2	15V	+	About 3 sec.	-	0.47
	GND	-	Later, Open beyond 2V	+	
3	CU1(5V)	+	Beyond 1.43	-	0.48
	GND	-		+	

Table 2. PA114 The value of Diode Tester of each terminal

∗ + : red, - : black

The configuration of terminal (top view, components side)



DIODE TESTER		MEASURE	DIODE TESTER		MEASURE
-	+		+	-	
GND	A	0.6	GND	A	0.5
	B	0.6		B	0.5
	C	0.6		C	0.5
	D	0.6		D	0.5
	E	0.6		E	0.5
	F	0.6		F	0.5
	G	0.6		G	0.5
	H	0.6		H	0.5

Table 3. The value of Diode Tester of each Semiconductor

∗ + : red, - : black

		NAME	DIODE TESTER	MEASURE	DIODE TESTER	MEASURE
1	QU5/QU6	D	+	ABOUT 5 SEC. LATER, OPEN	-	0.48
		S	-		+	
2	QU7/QU8	D	+	Open	-	0.48
		S	-		+	
3	QU17/QU18	D	+	Open	-	0.45
		S	-		+	
4	QU15/QU16	D	+	Open	-	0.45
		S	-		+	
5	QU23~QU26	D	+	Open	-	0.4
		S	-		+	
6	QU19~QU22	D	+	Open	-	0.4
		S	-		+	
7	QU12	D	+	Open	-	0.49
		S	-		+	
8	QU11	D	+	Beyond 2.3	-	0.49
		S	-		+	
9	QU9	D	+	ABOUT 5 SEC.LATER, OPEN	-	0.5
		S	-		+	
10	QU4	D	+	Open	-	0.5
		S	-		+	
11	QU13/QU14	D	+	Open	-	0.48
		S	-		+	

6-3. Y-SUSTAIN BOARD

1. Separate PA9, PA111 connector
2. Confirm the remaining electrical Voltage of PA9
   (1) Confirm the Voltage of Terminal 170V : If maintained beyond 10 volt, discharge(below 5 volt) with resistance of beyond 1K ohm 5 Watt
   (2) Confirm the Voltage of Terminal -155V : If maintained beyond -10 volt, discharge(below -5 volt) with resistance of beyond 1K ohm 5Watt
3. Confirm the resistance of RY2 (470 ohm 5Watt)
   (1) In case of wrong value, replace board and confirm each connector
4. In case of normal value of resistance, measure the value as following Table 1.
   (1) Use a Diode Tester
   (2) If abnormal part is found, replace the board
   (3) In case of normal state, Inspect connectors and other boards

Table 1. PA9 The value of Diode Tester of each terminal

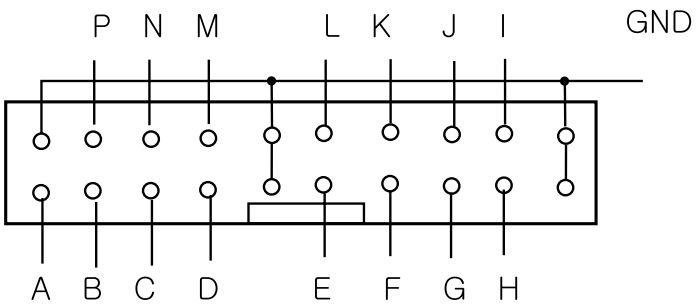
∗ + : red, - : black

	NAME	DIODE TESTER	MEASURE	DIODE TESTER	MEASURE
1	170V	+	About 3 Sec. Later, Open	-	Beyond 0.8
	GND	-		+	
2	-155V	+	Beyond 0.7	-	Open
	GND	-		+	
3	ON/OFF	+	Open	-	Beyond 2.4
	GND	-		+	
4	15V	+	Beyon 0.7	-	About 5 Sec. Later, beyond 0.4
	GND	-		+	

Table 2. PA111 The value of Diode Tester of each terminal

∗ + : red, -: black

The configuration of terminal (top view, components side)



DIODE TESTER		MEASURE	DIODE TESTER		MEASURE
-	+		+	-	
GND	A	1.2	GND	A	0.5
	B	0.6		B	0.5
	C	0.6		C	0.5
	D	0.6		D	0.5
	E	1.2		E	0.5
	F	1.2		F	0.5
	G	0.6		G	0.5
	H	0.6		H	0.5
	I	0.6		I	0.5
	J	0.6		J	0.5
	K	1.2		K	0.5
	L	0.6		L	0.5
	M	0.6		M	0.5
	P	1.2		P	0.5

Table 3. The value of Diode Tester of each Semiconductor

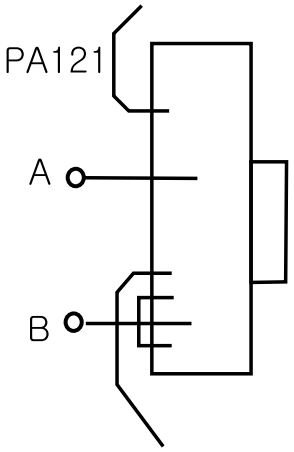
∗ + : red, - : black

		NAME	DIODE TEST	MEASURE	DIODE TEST	MEASURE
1	QY5~QY8	D	+	ABOUT 3 SEC. LATER, OPEN	-	0.4
		S	-		+	
2	QY9~QY12	D	+	Open	-	0.4
		S	-		+	
3	QY1~QY2	D	+	Open	-	0.4
		S	-		+	
4	QY3~QY4	D	+	Open	-	0.4
		S	-		+	
5	QY25~QY28	D	+	Open	-	0.4
		S	-		+	
6	QY20~QY23	D	+	Open	-	0.4
		S	-		+	
7	QY15~QY16	D	+	Open	-	0.4
		S	-		+	
8	QY19	D	+	Open	-	0.4
		S	-		+	
9	QY14	D	+	Open	-	0.4
		S	-		+	
10	QY13	D	+	Beyond 1	-	Open
		S	-		+	
11	QY2	D	+	Open	-	0.4
		S	-		+	

6-5. SCAN BOARD

1. Confirm the DIOED TESTER, PCB separately
2. The configuration

(1) The Voltage Terminal of Scan (top view, components side)



	DIODE TESTER	MEASURE	DIODE TESTER	MEASURE
A	+	Beyond 0.6	-	Open
B	-		+	

6-6. DATA H/L, CONNECTION(RU,CU,LU,RD,CD,LD)

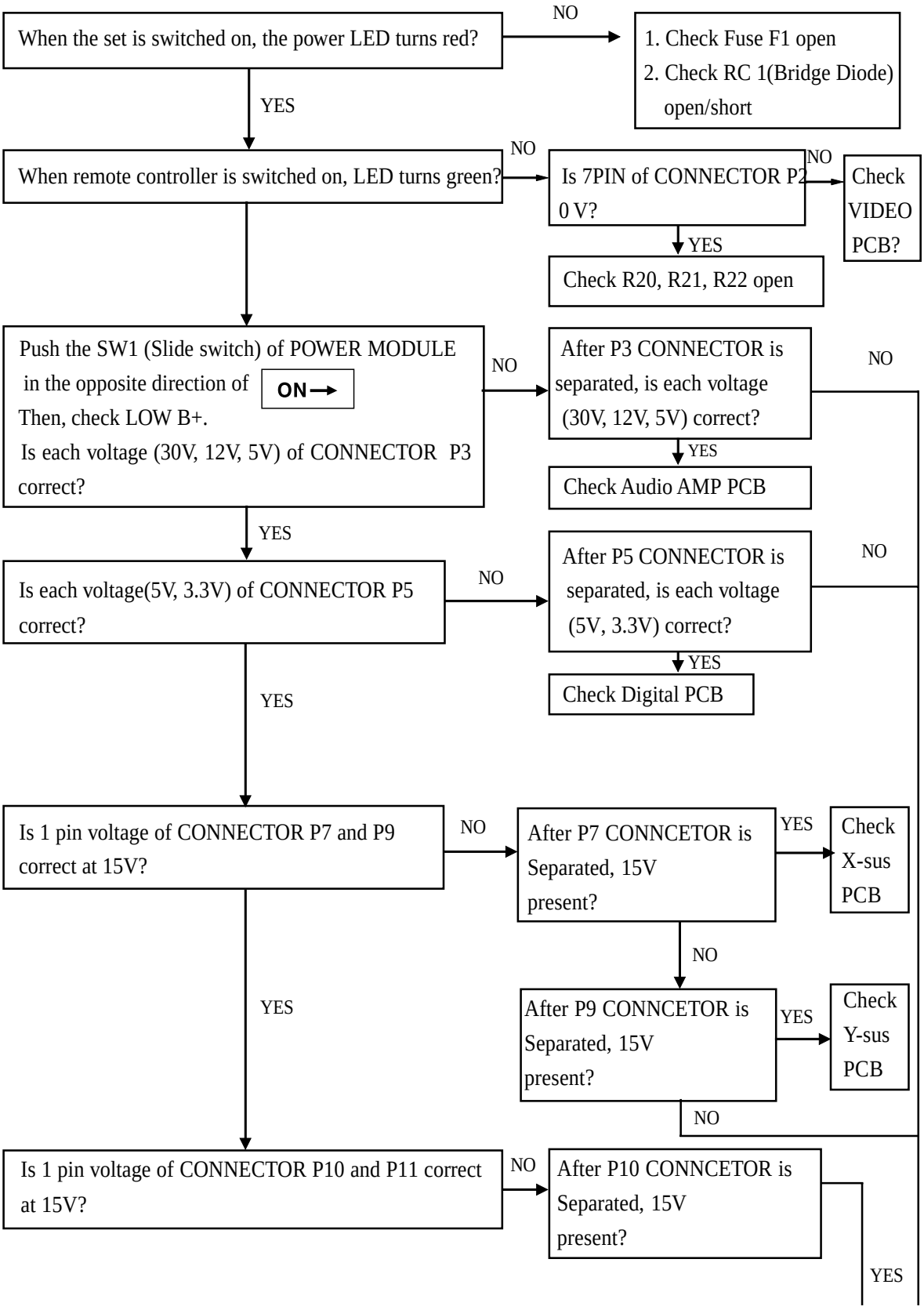
1. Confirm the upper part and the lower part
   (1) Separate PA10 and PA11
   (2) Confirm DIODE TESTER
2. Separate P112
   (1) Confirm LU and two DATA H boards
3. Separate PA113
   (1) Confirm CU and DATA H board
   (2) Confirm RU and two DATA H boards
4. Separate P115
   (1) Confirm LD and two DATA L boards
5. Separate P116
   (1) Confirm CD and DATA L board
   (2) Confirm RD and two DATA L boards

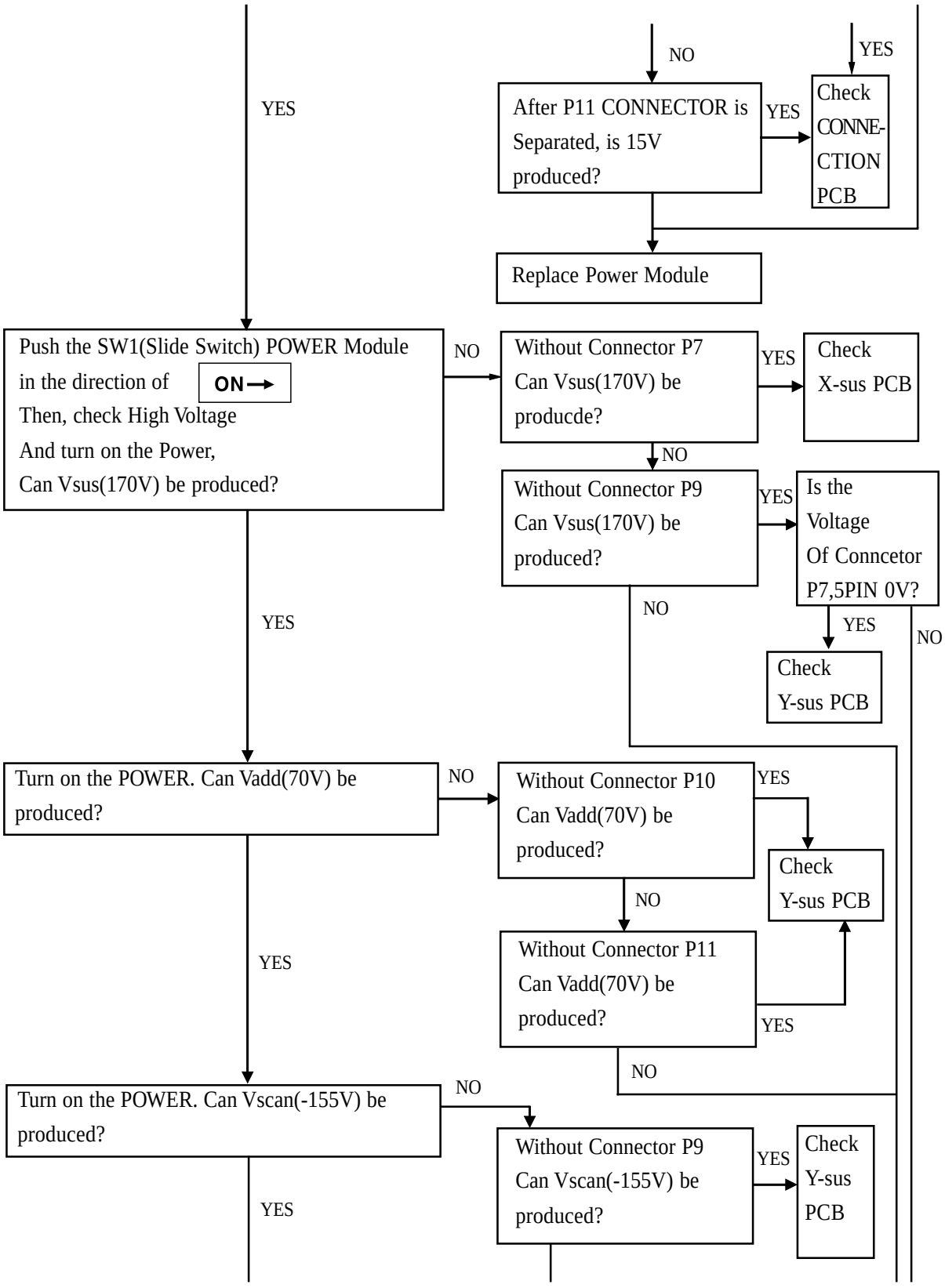
Table 1. The value of Diode Tester of each terminal

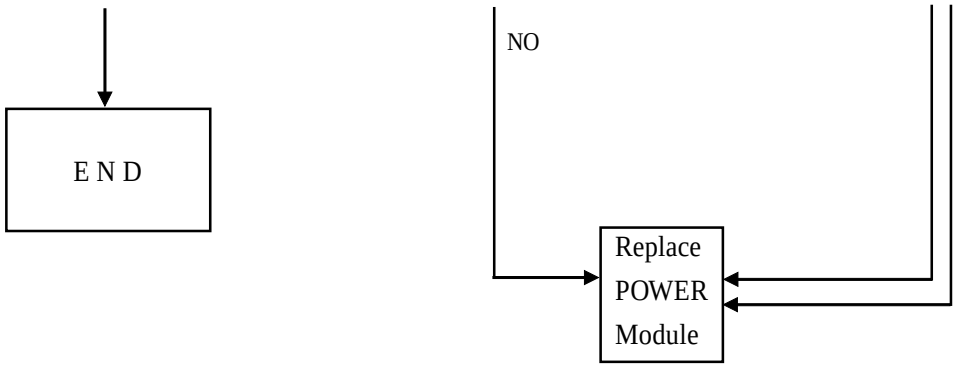
∗ + : red, - : black

	NAME	DIODE TESTER	MEASURE	DIODE TESTER	MEASURE
1	Vadd	+	Open	-	0.6
	GND	-		+	
2	5V	+	Beyond	-	0.5
	GND	-	1.3	+	

6-7. POWER CHECK




YES
NO
YES
After P11 CONNECTOR is Separated, is 15V produced?
YES
Check CONNE-CTION PCB
Replace Power Module
Push the SW1(Slide Switch) POWER Module in the direction of ON→
Then, check High Voltage
And turn on the Power,
Can Vsus(170V) be produced?
NO
Without Connector P7 Can Vsus(170V) be producde?
YES
Check X-sus PCB
NO
Without Connector P9 Can Vsus(170V) be produced?
YES
Is the Voltage Of Conncetor P7,5PIN 0V?
NO
YES
NO
Check Y-sus PCB
YES
Turn on the POWER. Can Vadd(70V) be produced?
NO
Without Connector P10 Can Vadd(70V) be produced?
YES
Check Y-sus PCB
NO
Without Connector P11 Can Vadd(70V) be produced?
YES
YES
NO
Turn on the POWER. Can Vscan(-155V) be produced?
NO
Without Connector P9 Can Vscan(-155V) be produced?
YES
Check Y-sus PCB
YES

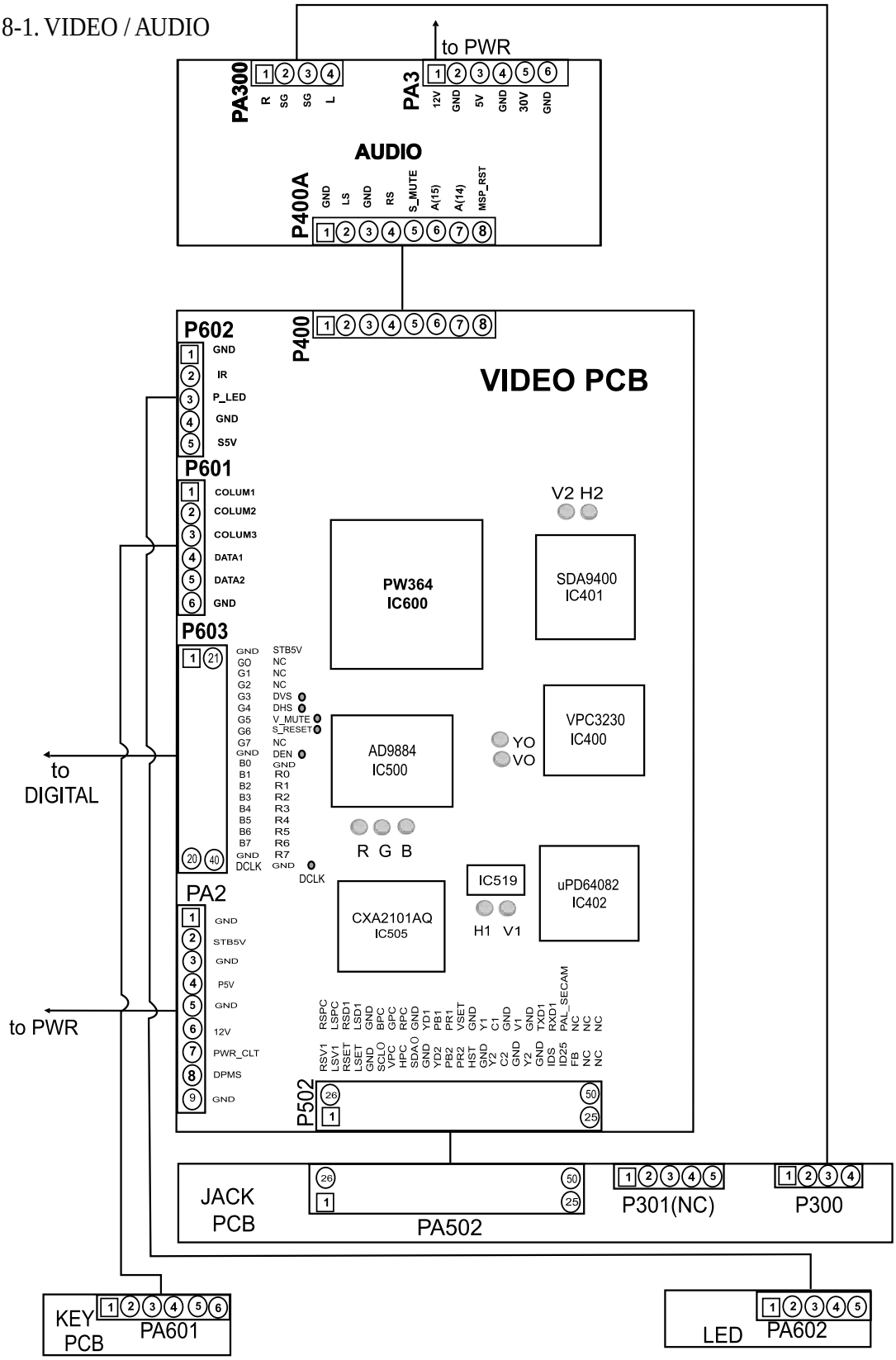

E N D
NO
Replace
POWER
Module

7. Assembly List

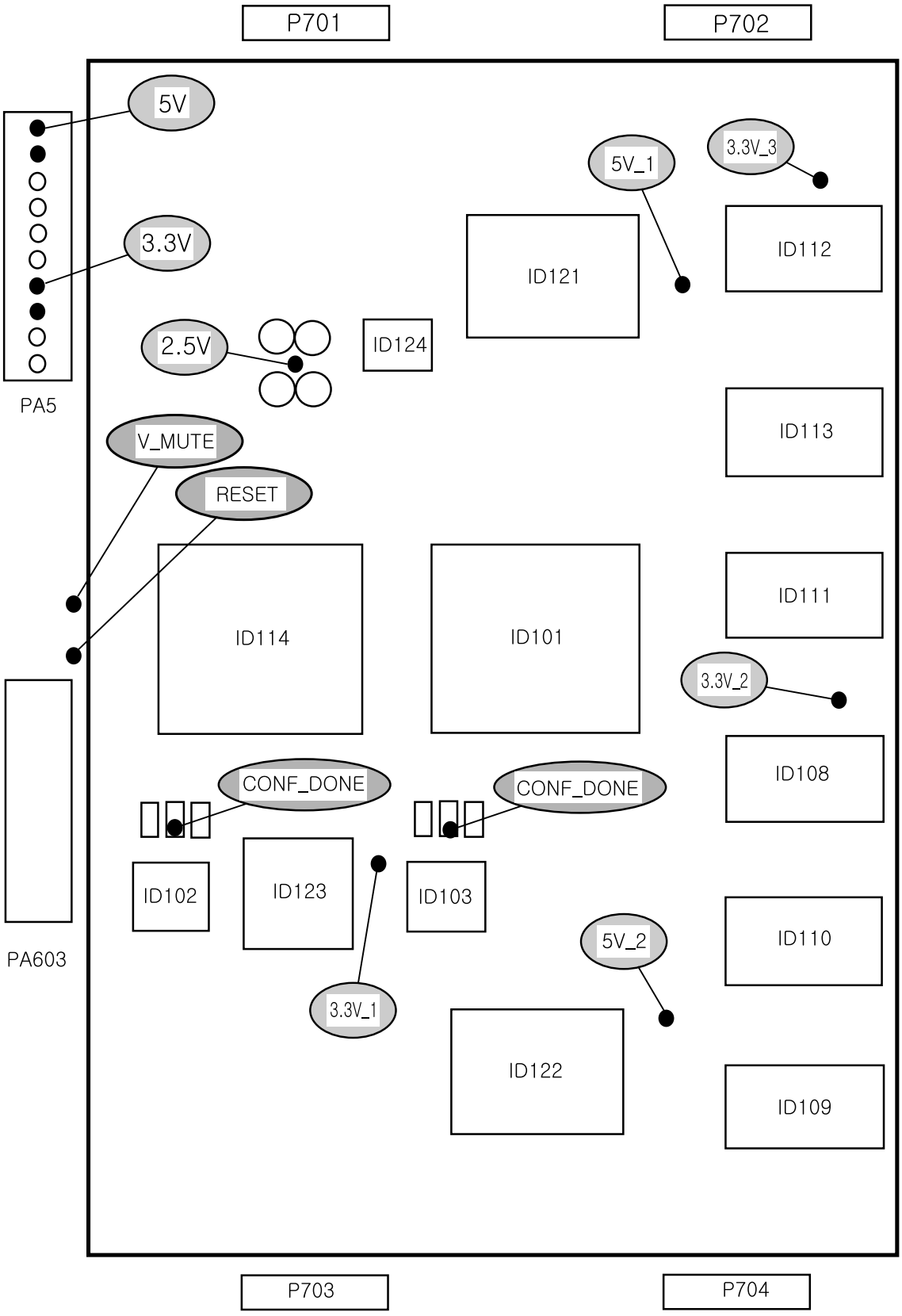
NO	PCB ASS'Y NAME	WORKING PROCESS ASS'Y NAME	ASSEMBLY CODE
1	ACCESSORY AS		PEACPWD011
2	PACKING AS		PEPKCPD011
3	CABINET AS		PECACAD011
4	MASK FRONT AS		PEFMSJD011
5	VIDEO PCB AS		
6		PCB VIDEO MANUAL A	PEVDMSD011
7		PCB VIDEO CHIP B AS	PEVDJ2D011
8		PCB VIDEO CHIP A AS	PEVDJ1D011
9	DIGITAL PCB AS		
10		PCB DIGITAL MANUAL	PEDGMSD011
11		PCB DIITAL CHIP B	PEDGJ2D011
12		PCB DIGITAL CHIP A A	PEDGJ1D011
13	DATA_H PCB AS	PCB DATA H AS	PED1MSD011
14		PCB DATA H CHIP A A	PED1J1D011
15	DATA_L PCB AS		
16		PCB DATA L MANUAL	PED2MSD011
17		PCB DATA L CHIP A A	PED2J1D011
18	SCAN PCB AS		
19		PCB SCAN MANUAL A	PES1MSD011
20		PCB SCAN CHIP A AS	PES1J1D011
21	X-SUS PCB AS		
22		PCB X-SUS MANUAL A	PEXSMSD011
23		PCB X-SUS RHU AS	PEXSJ0D011
24		PCB X-SUS M-10 AS	PEXSJBD011
25		PCB X-SUS RADIAL AS	PEXSJRD011
26		PCB X-SUS CHIP A AS	PEXSJ1D011
27	Y-SUS PCB AS		
28		PCB Y-SUS MANUAL A	PEYSMSD011
29		PCB Y-SUS RHU AS	PEYSJ0D011
30		PCB Y-SUS M-10 AS	PEYSJBD011
31		PCB Y-SUS RADIAL AS	PEYSJRD011
32		PCB Y-SUS CHIP A AS	PEYSJ1D011
33	AUDIO PCB AS		
34		PCB AUDIO MANUAL A	PEAUMSD011
35		PCB AUDIO RADIAL AS	PEAUJRD011
36		PCB AUDIO AXIAL AS	PEAUJAD011
37	JACK PCB AS		
38		PCB JACK MANUAL AS	PEJAMSD011
39	XSA PCB AS		
40		PCB XSA MANUAL AS	PEXAMSD011
41	CONN UNION		
42	PCB AS	PCB UNION CHIP A AS	PEUNJ1D011
43		PCB UNION AS	PEUNSWD011
44		PCB RIGHT-DO MANU	PERWMSD011
45		PCB RIGHT-DO A AS	PERWJ1D011

8. Block Diagram

8-1. VIDEO / AUDIO

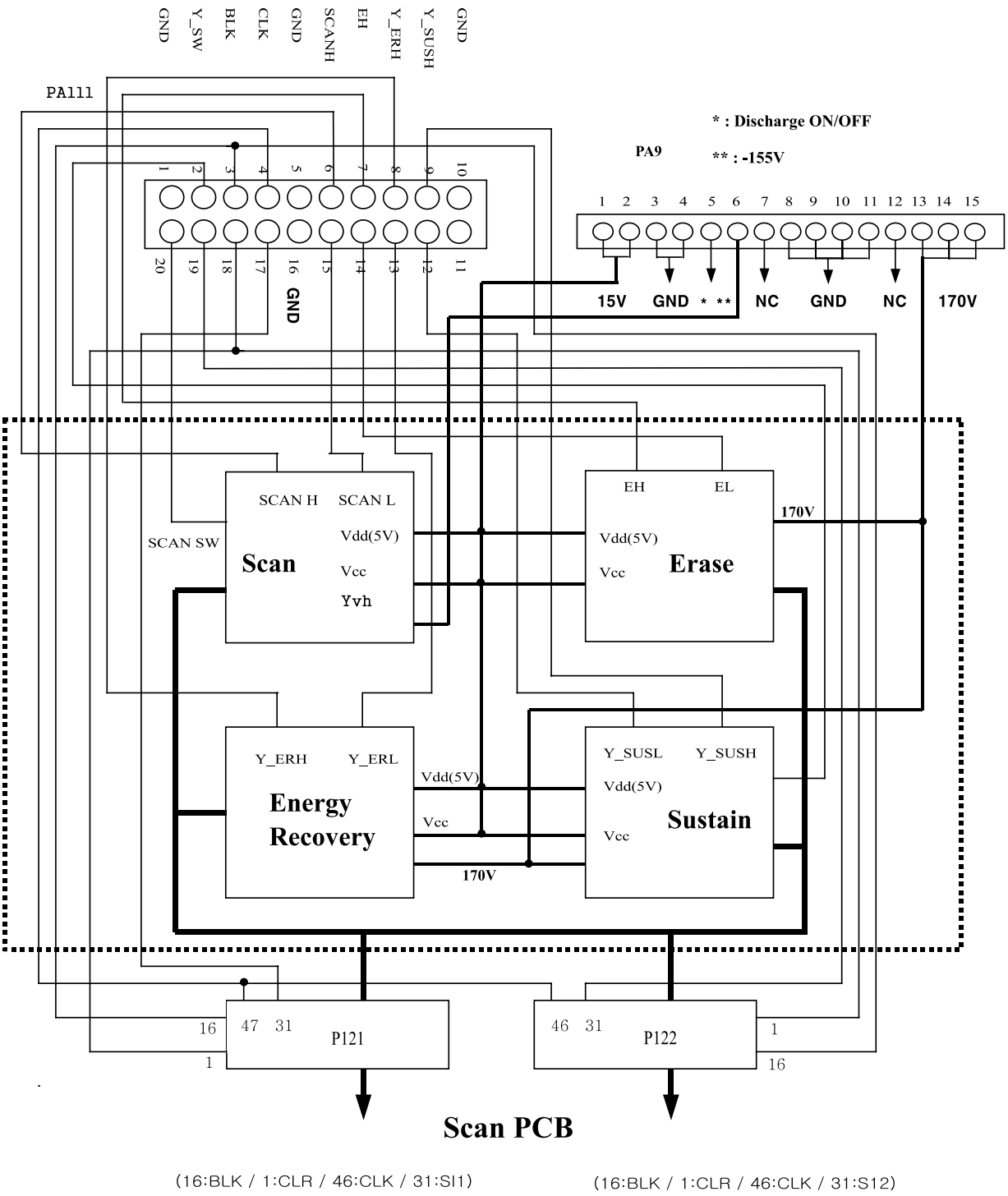


8-2. Digital


P701
P702
5V
3.3V
2.5V
PA5
V_MUTE
RESET
PA603
5V_1
3.3V_3
ID121
ID112
ID124
ID113
ID114
ID101
ID111
3.3V_2
ID108
CONF_DONE
CONF_DONE
ID102
ID123
ID103
5V_2
ID110
3.3V_1
ID122
ID109
P703
P704

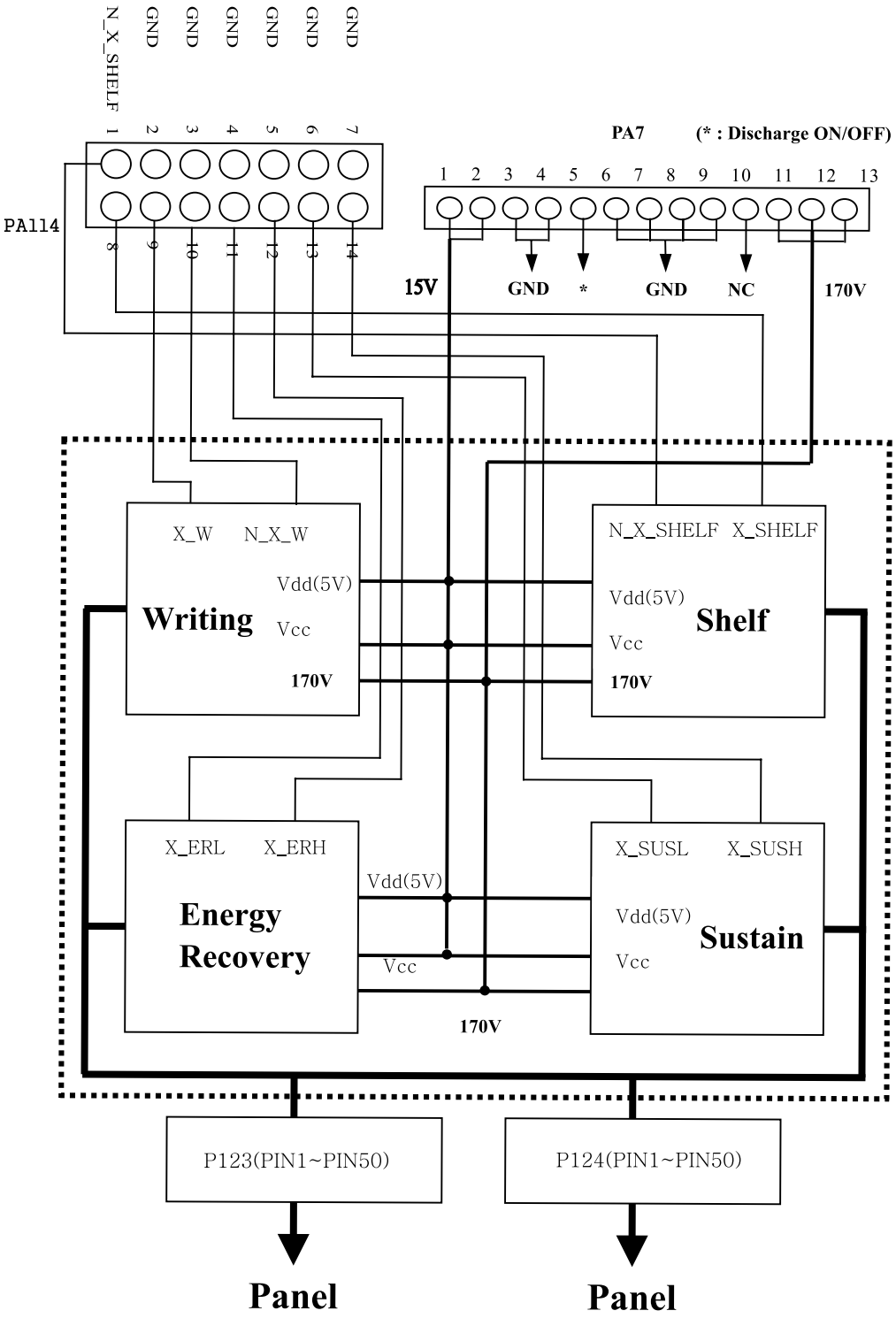
8-3. Y-Sustain

Y-Sustain Block Diagram



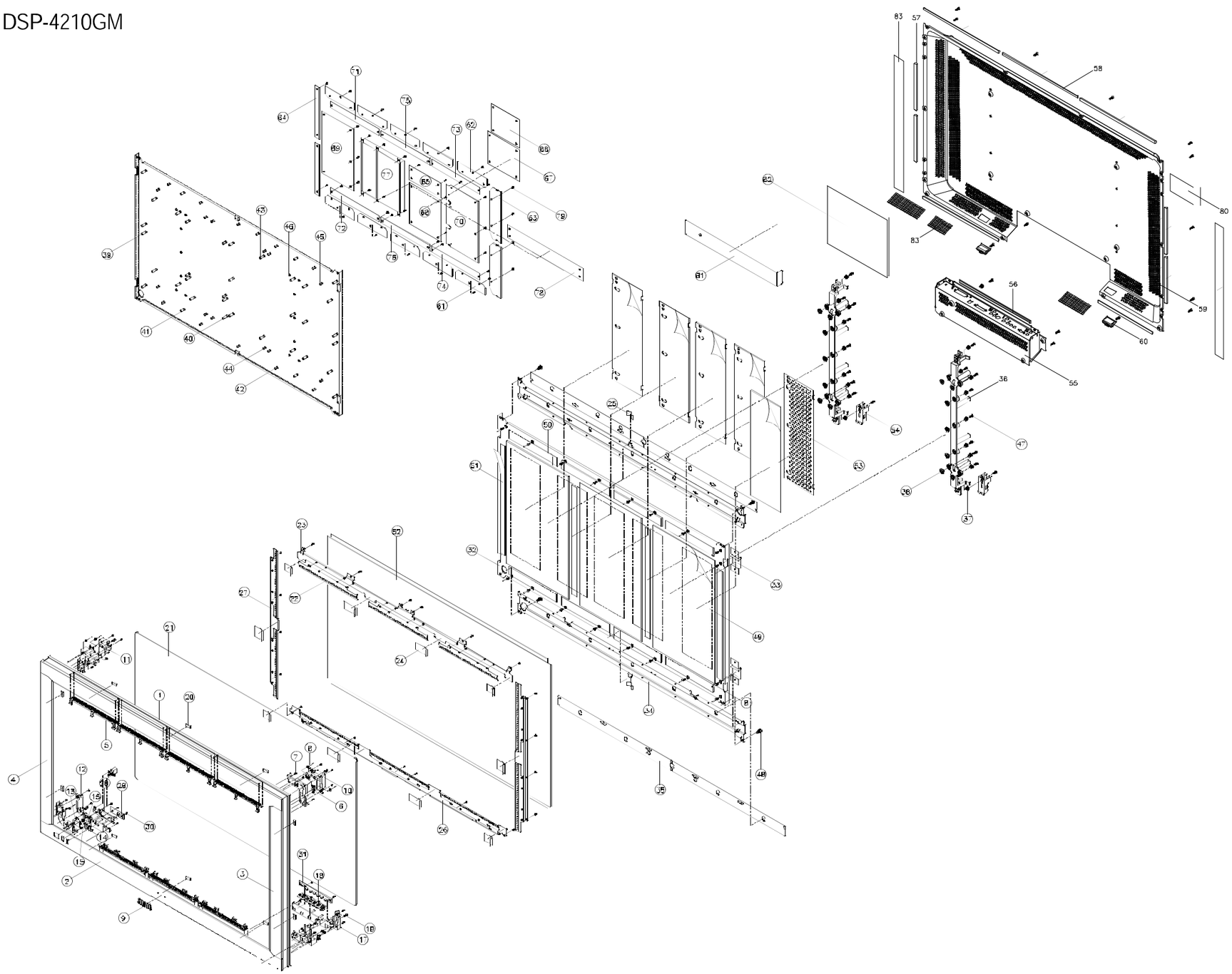
8-4. X-Sustain

X-Sustain Block Diagram



EXPLODED VIEW

DSP-4210GM



NO.	PART CODE	PART NAME	Q'TY	MATERIAL	REMARKS
85	4857480000	CLOTH BLACK	2	EVA 1.0	
84	4857483000	INSULATION POWER	1	PET 0.13	
83	4857983400	INSULATION TERMINAL	1	PET 0.13	
82	4854458000	SPEC PLATE	1	150 APT PLE FILM	
81	7000A40101	SCREW M-CHINE	40	W-S 3*10 MFZN	
80	PEGMI5001	PCB A-SW -S	1		
79	PEGMI5001	PCB POWER -S	1		
78	PEGDM5001	PCB 2D REP DOWN -S	1		
77	PEGUP5001	PCB 2D REP UP -S	1		
76	PEGLM5001	PCB LEFT DOWN -S	1		
75	PEGUM5001	PCB LEFT UP -S	1		
74	PEGRM5001	PCB RIGHT DOWN -S	1		
73	PEGUM5001	PCB RIGHT UP -S	1		
72	PEGSM5001	PCB T-SUB -S	1		
71	PEGSM5001	PCB T-SUB -S	1		
70	PEGDM5001	PCB DIGITAL -S	1		
69	PEGVD5001	PCB VIDEO -S	1		
68	4857982700	PCB L-IN -S	1		
67	PEGVD5001	PCB VIDEO -S	1		
66	PEGMI5001	PCB SUB -S	2		
65	PEGMI5001	PCB SCART -S	2		
64	PEGDM5001	PCB DIGITAL -S	6		
63	PEGDM5001	PCB DIGITAL -S	5		
62	4857980800	CD DEP STAND HOLE	2	HIPS	
61	4822180300	CD DEP BASE	1	+SPCC 1.2	
60	4857100200	SHIELDPLATE B	4	SUS SUP-300 Dp=1.0	
59	4857100100	SHIELDPLATE A	4	SUS SUP-300 Dp=1.0	
58	4857100300	SHIELDPLATE C	1	SUS SUP-300 Dp=1.0	
57	4823980200	PLATE TERMINAL	1	+SPCC 1.0	
56	4823030300	BRACKET SUPPORT	2	SECC 1.0	
55	4857980200	PLATE HEAT	5	+T050 1.0	
54	4823020200	PANEL CONTROL	1	ABS+PC HB94	
53	4857100200	TAPE CLOTH B	1	+EMI870 0.1	
52	4857100300	TAPE CLOTH A	8	+EMI870 0.1	
51	4857983800	THERMAL SHEET	3	5000FP 2500 500*81.1	
50	7000A40101	SCREW SPRING M-CHINE	4	BH M4*12 MFZN	
49	7000A40101	SCREW M-CHINE	32	BH M4*10 MFZN	
48	4858980800	POST GUIDE PLATE	40	C3604	
47	4858980100	POST GUIDE C	2	C3604	
46	4858980200	POST GUIDE B	14	C3604	
45	4858980300	POST GUIDE A	4	C3604	
44	4858980400	POST PCB D	22	C3604	
43	4858980500	POST PCB C	4	C3604	
42	4858980600	POST PCB B	4	C3604	
41	4858980700	POST PCB A	28	C3604	
40	4858980800	HOLDER INSULATION B	15	HIPS	
39	4858980700	HOLDER INSULATION A	18	HIPS	
38	4858983800	FRAME SUPPORT	2	+SPCC 1.0	
37	4857980800	INSULATION PET	4	PET 0.1	
36	4858983800	FRAME BACK B	2	+SGH1 1.0	
35	4858980800	FRAME BACK A	4	+SGH1 1.2	
34	4858983800	PLATE BACK	1	+SPCC 1.0	
33	4857980800	PCB CONTROL	1		
32	7000A40101	SCREW T-PTITE	3	TP BH 3*8 MFZN	
31	4857983800	PCB LED	1		
30	4858980400	BRACKET POWER S/W	1	SECC 1.0	
29	4858980400	FRAME SIDE	2	+SPCC 1.5	
28	4858983800	FRAME SIDE L	1	+SPCC 1.0	
27	4830980400	CLOTH BLACK	8	EVA	
26	4824980800	RUBBER FRAME B	4	CPE0 1.0 B	
25	4858980800	FRAME SIDE U	1	+SPCC 1.5	
24	4857980100	SHIELD FILTER	14	SUS304SP 0.1	
23	4822980100	FILTER	1	PDF-69H01	
22	4824980800	RUBBER FILTER	10	CPE0 1.0 B	
21	4823020300	RIVET HW N4	4	C3604	
20	4858980500	BUTTON CH	1	ABS	
19	4858980500	HLD GUIDE CL	1	HIPS	
18	4857980800	SPRING POWER S/W	1	SUS304WPB	
17	4858980800	DECO LED	1	PMMA	
16	4820080400	DECO SENSOR	1	PMMA	
15	4858980100	BUTTON POWER	1	HIPS	
14	4858980300	HLD GUIDE UP	1	HIPS	
13	4858980400	HLD GUIDE UR	1	HIPS	
12	4858980300	HLD GUIDE DR	1	HIPS	
11	4858980500	HLD GUIDE UL	1	HIPS	
10	4823980100	BRAND NAME	1	AL	
9	4857980800	FOOT RUBBER	8	RUBBER	
8	7000A40101	SCREW T-PTITE	28	TP2 M3*8 MFZN	
7	4822980100	BRACKET CLAMP	4	+SPCC	
6	4858980100	PLATE TERMINATION	7	+SPCC 0.8	
5	4852980100	MASK FRONT L	1	+SGH1	
4	4852980200	MASK FRONT R	1	+SGH1	
3	4852980300	MASK FRONT LOWER	1	+SGH1	
2	4852980400	MASK FRONT UPPER	1	+SGH1	

DAEWOO

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